

**RESPONSE TO COMMENTS (part 2)
2004-2006 STATE OF NEW MEXICO
INTEGRATED §303(d)/ §305(b)
LIST OF ASSESSED SURFACE WATERS**

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COMMENT SET 18 – Los Alamos National Laboratory

Enclosure 1
Comments on Draft 2004-2006 303(d) List of Impaired Waters
Los Alamos National Laboratory
May 13, 2004

Introduction

Many of the following comments address the methods used to assess whether a water body should be listed as impaired. These methods and procedures are described in *Procedures For Assessing Standards Attainment for the Integrated §303(d) /§305(b) Water Quality Monitoring And Assessment Report: Assessment Protocol* (April, 2004). The Laboratory first commented on an earlier version of these procedures in the August 8, 2002 comments on the draft 2002-2004 303(d) list. In the October 16, 2002 response to these comments, the New Mexico Environment Department Surface Water Quality Bureau (SWQB) indicated that many of the Laboratory's issues would be addressed during the 2003-2004 Triennial Review or during the 2003 update of the assessment protocol (Enclosure 2).

The Laboratory has subsequently reiterated these concerns in comments on the Assessment Protocol (Enclosure 3) and again during the Triennial Review. Because the Assessment Protocol is fundamental to the determination of whether a water body is listed as impaired, many of the following general comments again address the Laboratory's concerns with SWQB's Assessment Protocol.

On May 12, 2004, one day before these comments were due, the Laboratory received additional information from SWQB (Enclosure 4). Although a detailed review of this information was not possible, an initial review indicates it does not resolve the major issues. Therefore, the Laboratory offers the following comments.

Comments on Assessment Protocol

Use of Storm Water Data for Assessing Use Support - The majority of water quality data from the Laboratory was generated during storm water runoff events. Storm water runoff events in the arid Southwest are short term events, usually lasting no more than a few hours. It is inappropriate to apply chronic water quality standards to storm water runoff events, as the Laboratory witnesses testified in the latest Triennial Review of New Mexico water quality standards.

US EPA's chronic water quality criteria for the protection of aquatic life used by SWQB are designed to be used as 4-day averages (US EPA 1991, 1994). The intent of this approach, which is conservative since many of the chronic criteria are based on toxicological tests with 20-30 day exposures, is to provide protection from long-term exposure to a pollutant. The wildlife habitat criteria consist of selected chronic aquatic life criteria known to cause problems in wildlife. 20.6.4.900.L NMAC clearly states that the wildlife habitat criteria are chronic. Therefore, the wildlife habitat criteria currently in 20.6.4 NMAC must be assessed using the same protocol as the chronic aquatic life criteria.

***RESPONSE:** SWQB acknowledges that the word "chronic" is currently used in 20.6.4.900.L NMAC, which is why the current assessment procedure for Wildlife Habitat is the same as the assessment procedure for Aquatic Life Use Support for toxic substances as detailed in Tables 3.5*

and 3.2 in the Assessment Protocol (NMED/SWQB 2004). NMED is studying whether the term “chronic” is appropriate in this location.

References:

NMED/SWQB. 2004. State of New Mexico Procedures for Assessing Standards Attainment for the Integrated §303(d)/§305(b) Water Quality Monitoring and Assessment Report. Santa Fe, NM.

Livestock watering is not addressed by any current EPA guidance; the most relevant recent guidance is for domestic water supply and human health. Most of these criteria are directly carried over from the domestic water supply standards, which, in turn, come from the Safe Drinking Water Act Maximum Contaminant Levels of the National Primary Drinking Water Standards that are applicable to drinking water systems. These criteria, with the major exception of nitrate and nitrite, are generally chronic criteria designed to protect against ingestion of carcinogens in drinking water consumed by humans every day for 70 years. As such, these criteria are extremely conservative, especially when applied to intermittent and ephemeral streams that may only flow a few days per year. Since these criteria are either identical to, or have been derived in a similar manner to human health and domestic water supply criteria, compliance should be assessed in the same way, by comparison to the annual arithmetic or geometric mean, or median (US EPA 2002, Table 4-3, page 4-17). In the case of intermittent and ephemeral water bodies, these means or medians should be adjusted for the potential exposure of the livestock; when the water bodies are dry, it is impossible for livestock to ingest the contaminant in drinking water. Thus, for days when the water body is dry, the level of the contaminant is zero.

RESPONSE: *The statement that “livestock watering is not addressed by any current EPA guidance” is not entirely correct. The “Water Quality Standards Handbook: 2nd Edition” is a current guidance document. At Section 3.2.3, the Handbook states that the*

“Green Book” (FWPCA, 1968) and “Blue Book” (NAS/NAE, 1973) provide some information on protecting agricultural and industrial uses. Section 304(a)(1) criteria for protecting these uses have not been specifically developed for numerous parameters pertaining to these uses, including most toxics.

Where Criteria have not been specifically developed for these uses, the criteria developed for human health and aquatic life are usually sufficiently stringent to protect these uses. States may also establish criteria specifically designed to protect these uses.

The “Green Book” and “Blue Book” are current guidance by this reference. Recommended criteria for livestock watering are contained therein. Although some of those recommendations are based upon drinking water criteria they remain recommendations for livestock watering.

“Compliance” issues are addressed in 20.6.4.11 NMAC. Determining compliance with water quality standards is an issue that is before the WQCC as part of its triennial review deliberations and will be decided through the commission’s deliberation process.

Designated use attainment status is determined as detailed in the Assessment Protocols (NMED/SWQB 2004). SWQB does not believe the calculation of annual means or medians is

necessary or feasible to determine whether or not the Livestock Watering designated use is being attained or not. The calculation of annual arithmetic mean, geometric mean, or median would require continuous flow records and an inordinate number of samples to determine a contaminant concentration for every flow value. If calculations of annual means or medians were required to determine designated use impairment status for Livestock Watering, it would be virtually impossible to determine whether or not Livestock Watering designated uses were being met.

In ephemeral and intermittent streams, the calculations of means would require the inclusion of values of zero to account for no flow days. The values being averaged are concentrations, in mass per unit volume. In the absence of flow, there would be no mass and no volume. As a result, the calculation of concentration in the absence of flow would result in division by zero, which results in an undefined amount, not zero. It is not possible to average with undefined amounts, meaning that if one sample was undefined, no average concentration could be calculated and designated use attainment status could not be determined. SWQB's contention is that averaging concentration values of zero when no flow is present could result in substantial exceedences of criteria when water is present.

The Assessment Protocol, to address the problem of small datasets consisting of grab samples, uses a multiplying factor of 1.5 to compare water quality data to chronic criteria. The Laboratory strongly opposes the use of this approach as lacking a credible scientific basis. This approach ignores the exposure assumptions inherent in chronic criteria. Moreover, as is discussed in detail below, the only basis for the selection of the 1.5 factor (as cited by the SWQB) is not applicable to evaluating ambient water quality data for assessment of use attainment.

Many of the samples used to justify listing are collected to meet requirements of the Multi-Sector General Permit for Storm Water Discharges from Industrial Activities (EPA 2000) that collect water during the “first flush” during the first half hour of a storm event. The purpose of sampling the first flush is to provide a worst-case estimate of contaminant release and the potential downstream impact. However, this sampling method is inappropriate to characterize in-stream impairment because it does not “characterize the waterbody throughout most of the hydrograph,” which is a goal of the Assessment Protocol (p 8, Section 2.1.6). Accordingly, it does not provide a good estimate of the daily load required to calculate the total maximum daily load, particularly in canyons where base flow is commonly present in intermittent and perennial reaches.

Chronic Screening Level – As noted above, the Laboratory strongly disagrees with the use of a 1.5 factor (multiplied times a chronic standard) to calculate a chronic screening value to compare water quality data with chronic water quality standards.

The April 2004 assessment protocol states (page 8, section 2.1.6):

“Few states and tribes are obtaining composite data over a 4-day sampling period for comparison to chronic criteria due primarily to budgetary and staff time constraints. USEPA believes that 4-day composites are not an absolute requirement for evaluating whether chronic criteria are being met when determining use attainment status. Therefore, USEPA affords states and tribes the flexibility to define how they will assess use attainment when 4-day composite data are not available (USEPA, 1997). If

consecutive day data are not available, a chronic screening level of 1.5 times the chronic criteria will first be calculated. The multiplier of 1.5 was also derived as a way of addressing small data sets (USEPA, 1991). This chronic screening level value will then be compared to individual grab sample results as explained in the assessment tables (Section 3.0).”

The cited EPA references in the above quotation do not support the way the Assessment Protocol uses the 1.5 factor, particularly when applied to storm events and ephemeral streams.

The first reference, US EPA, 1997 (Guidelines for preparation of the comprehensive state water quality assessments (305(b) reports) and electronic uptakes: supplement. EPA-841-B-97-002B) discusses the conditions under which grab samples may be substituted for a 4-day composite sample:

“EPA believes that 4-day composites are not an absolute requirement for evaluating whether chronic criteria are being met. Grab and composite samples (including 1-day composites) can be used in water quality assessments *if taken during stable conditions*.” (emphasis added).

The reference to stable conditions is critical; it presumes that observations obtained from a grab sample (or 1-day composites) are equivalent to what would be observed over a 4-day consecutive period. Thus, a grab sample under stable conditions is presumed to provide results representative of chronic conditions. This presumption is not valid in ephemeral streams. Storm water flows are not stable; they are characterized by rising and falling flows over a few hours, with similarly rising and falling levels of contaminants. The only stable condition in an ephemeral stream is the absence of water. Consequently, based on the 1997 EPA reference, the Laboratory believes it is inappropriate to use storm water quality data to evaluate compliance with chronic water quality standards.

The Laboratory found no specific reference for using the 1.5 factor in the second reference, US EPA, 1991 (Technical support document for water quality-based toxics control. EPA/505/2-90-001). Moreover, this document provides no guidance on the use of small ambient water quality data sets for the purpose of assessing compliance with standards. Instead, the reference to the use of small data sets is limited to the discussion on how to use limited effluent monitoring data to determine the “reasonable potential” for an effluent discharge to cause an exceedance of an ambient water quality standard in the receiving water (see pages 52-56). The analysis of “reasonable potential” is an important procedure that is fundamental to establishing water quality-based effluent limitations in discharge permits, but it is not directly relevant to the assessment of ambient water quality for several reasons.

- (1) Chemical concentrations in effluent are dependent on the biological, mechanical and hydraulic conditions in the wastewater collection and treatment system and have no direct relevance to ambient conditions in New Mexico water bodies. The scenario envisioned by the EPA procedure is a steady flow of effluent that maintains a relatively stable quality. This scenario is inconsistent with what occurs during storm water events where water quality is highly variable.

- (2) The multiplying factor in the “reasonable potential” procedure is multiplied with the highest value in the effluent monitoring data set to determine the highest concentration in the effluent that could cause an exceedance in the receiving water. The resulting value is the number that is to be compared to the water quality standard. This approach is contrary to the assessment protocol where the multiplying factor is multiplied by the water quality standard.
- (3) The EPA Procedure does not generate a single value such as 1.5; it generates a range of values depending upon the number of samples, the observed variation between samples, and a stated level of uncertainty. In fact, using EPA principles, where the variability of water quality is high ($CV > 1.5$) and the number of samples is low (< 10) at the 95th percentile the multiplying factor would range from 3.1 to 64.9 – not the 1.5 used by the SWQB. While a value of 1.5 can be generated by the procedure, typical values are much higher, ranging as high as 368.3.

In summary, the SWQB’s cited references do not justify the use of a 1.5 multiplying factor to screen water quality data for exceedances of a chronic water quality standard. US EPA 1997 allows the use of single grab samples in place of 4-day samples, but only if the samples are “taken under stable conditions.” This restriction limits the use of this approach to “base flow” or similar stable conditions, and does not allow the application of chronic criteria to flows in ephemeral streams lasting only a few hours. US EPA 1991 discusses assumptions that may be made when using small data sets but only in the context of evaluating effluent data to determine the reasonable potential for the effluent discharge to cause an exceedance of a receiving water standard. US EPA 1991 does not address evaluation of small data sets to evaluate compliance with chronic water quality standards for the purpose of assessing use support.

As mentioned above, additional information regarding this issue, consisting of an August 27, 2002 email from US EPA Region 6 (Region 6) to SWQB, was received on May 12, 2004, one day before comments were due. This did not permit the Laboratory to conduct a detailed review of the information. The email indicates that Region 6 did use the “reasonable potential” analysis as the basis for the factor. However, Region 6 indicates that the 1.5 factor was intended to be a “stop gap measure used in the 1998 assessment.” It is also indicated that the 1.5 factor is intended to allow a single sample to replace a 4 consecutive-day sample (the latter is the recommended method for determining compliance with chronic criteria in US EPA 1991 and 1994). Implicit in this recommendation is that the water body is stable such that chronic exposure conditions actually exist. This is particularly evident in the selection of coefficient of variation of 0.1, which is far lower, and therefore more constant than the “reasonable potential” procedure allows for the regulated conditions of a wastewater effluent discharge. (The “reasonable potential” procedure recommends a coefficient of variation of 0.6.) Nowhere is it indicated that this procedure is appropriate for using storm water data in ephemeral streams to assess compliance with chronic criteria.

***RESPONSE:** As noted in Enclosure 4 and the Assessment Protocol, the chronic screening level was developed as a way to assess against chronic criteria in the absence of data collected over a 4-day sampling period. It is necessary that states develop assessment procedures such as these because states generally do not have the staff or financial resources to collect 4-day consecutive data in all surface waters as well as collect data over the entire hydrograph. As stated in the Assessment Protocol:*

“...Starting with the 2002 SWQB intensive watershed survey, the sampling regime was adjusted to sample once per month over an eight-month period in order to 1) better characterize the waterbody throughout most of the hydrograph, and 2) acquire data points that are statistically independent with respect to time. Because of this sampling scheme, consecutive-day data is usually not available to calculate 4-day averages.”

There are currently (2004) no USEPA assessment or listing methodologies that provide guidance specifically on the incorporation of stormwater data. Even so, there is no specific language in NMAC 20.6.4 excluding the application of water quality standards to stormwater. Also, states are required to assemble and evaluate all existing and readily available water quality-related data and information. Therefore, there is no justifiable reason to exclude stormwater data from consideration during the New Mexico listing process. The majority of states surveyed by LANL to develop “LANL Enclosure 1” in Enclosure 3 stated that they were currently not using stormwater data as a sole basis of listing because either 1) stormwater data was not available, or 2) they were uncertain how to incorporate stormwater data into assessment procedures. States are requesting that USEPA develop clear guidance on how to incorporate stormwater data into assessments and the subsequent TMDL process.

SWQB acknowledges that additional assessment methodologies specific to incorporation of stormwater data may be needed to verify existing and proposed listing based solely on stormwater data before scheduling subsequent TMDL development. Presumably with the cooperation of LANL, SWQB is planning to gather data on the intermittent and perennial portions of the listed waters during the scheduled 2005 survey year. For these reasons, SWQB has changed the categorization of all listings based solely on stormwater data from Category 5A to Category 5C and has added the following Assessment Unit Comment:

“...This listing is based on stormwater data only. Additional data and assessment methodologies specific to incorporation of stormwater data may be needed to verify the listing before scheduling subsequent TMDL development. There are currently (2004) no USEPA assessment or listing methodologies for incorporation of stormwater data.”

Gross alpha: Gross alpha excludes radon and uranium, as well as the source, special nuclear and byproduct material regulated under the Atomic Energy Act (AEA) of 1954. Detailed discussion is provided on pp. 13-14 of Enclosure 2.

RESPONSE: *SWQB can find no discussion of gross alpha or the AEA on pp.13-14 of Enclosure 2. SWQB’s position regarding this issue has not changed since the 2002 listing cycle and is provided on pp. 21-22 of Enclosure 2. As stated in the ROD for all gross alpha listings on the Pajarito Plateau, all data used in the assessments were calculated as uranium-corrected gross alpha minus plutonium and americium.*

General Comments on the Draft List and ROD

Modifications to TMDL Schedule - The draft list indicates that the schedule for TMDL development in the Laboratory stream segments has been changed from 2017 (2002 303(d) list) to 2007. There is no explanation in the ROD why the schedule has been accelerated.

REPNSE: *It is not necessary to discuss TMDL or Monitoring Schedules in the ROD. According to the 2004 Listing Guidance:*

“...The key components of the Integrated Report are as follows: geographic referencing of all water resources; categorization of waters according to WQS attainment status; identification, prioritization and scheduling of waters needing Total Maximum Daily Loads (TMDL); identification of waters where information is not sufficient to determine a water’s status; and a schedule of monitoring for the next reporting cycle.”

Similar to most states, SWQB has developed and utilizes a rotational watershed-based monitoring plan. Generally, TMDLs are written within 2-3 years of intensive watershed surveys. The next scheduled monitoring for the Pajarito Plateau area is 2005. Accordingly, the TMDL Schedule states 2007. Both of these dates are estimated and could change depending on a variety of factors.

References:

USEPA. 2003. 2004 Guidance for 2004 Assessment, Listing and Reporting Requirements Pursuant to Sections 303(d) and 305(b) of the Clean Water Act. Office of Water, Washington, D.C. July 21, 2003.

Monitoring Schedule - The Laboratory recommends that the monitoring and TMDL schedules be more closely coordinated. For example, in the Rio Grande – Santa Fe watershed sites the Integrated List shows that the monitoring schedule for the Laboratory waters is 2005 and the TMDL schedule is 2007. This scheduling makes sense given the need for data to support TMDL development. However, in the Upper Rio Grande watershed monitoring is scheduled for 2008, but waters at the Laboratory are scheduled for TMDL development in 2007. The TMDL development process would benefit from having the next round of scheduled watershed monitoring occurring prior to the proposed date for TMDL development.

REPNSE: *SWQB organizes the 303d/305b list and survey planning activities by USGS 8-digit hydrologic unit codes (HUCs) to the extent possible. Unfortunately, portions of the Pajarito Plateau lie within two separate HUCs, namely Rio Grande-Santa Fe (13020201) and Upper Rio Grande (13020101). A monitoring date of 2008 was assigned to all Upper Rio Grande waters in the ADB v.2 and was reflected in the draft list that went out for public comment. SWQB agrees that all waters on the Pajarito Plateau should be sampled in the same year so TMDL development can be scheduled together as well. The dates monitoring dates have been changed accordingly.*

Please also note that as discussed in above Responses, the streams listed for the Pajarito Plateau have been changed from impairment Category 5A to 5C. As noted in the Explanatory Notes that were posted on the SWQB web site along with the draft list:

“...If listed as Category 5A, this is the proposed year of TMDL completion. If 5B or 5C, new data should be collected by this date. At that point, either a TMDL should be developed, or the category changed accordingly. This date, as well as the “Monitoring Schedule” date, is dependent upon personnel and financial resources which change on an annual basis.”

Frequency and Context of Exceedance Data - The ROD is lacking critical data to evaluate the basis for use support and impairment decisions. Under the Assessment Protocol, use support and impairment decisions are made based on the frequency of exceedances over some period of time. The ROD should be revised to show (1) the range of dates over which data are being included in the assessment; (2) the number of observations and the type of observation, e.g., ambient or storm water runoff conditions; (3) the frequency of exceedances during the period of assessment; and (4) any other relevant information that was used to evaluate use support. Because most data appears to result from storm flows, and because data is often aggregated from several separate sampling locations and sources to make a case for listing, the sampling date, location, and source should be listed for each data point to allow comparison with precipitation data.

RESPONSE: SWQB disagrees and believes the level of detail currently provided in the ROD is adequate. The ROD is an in-house document used to document changes to the 303(d) list and to assist USEPA with review and approval of the 303(d) list. Supporting information is kept in the administrative record in our office that is available for public review upon request. If USEPA does not believe the ROD adequately explains the listing, they will request additional information.

Boundary between Upper Rio Grande and Rio Grande-Santa Fe - What is the boundary between Upper Rio Grande and Rio Grande-Santa Fe? It appears to be a high water mark of Cochiti Reservoir, but this is not stated in the list or the ROD.

RESPONSE: The ROD is not intended to house this type of information. See <http://water.usgs.gov/GIS/huc.html> or contact the USGS for additional information regarding USGS HUCs. It appears that volcanic basalts are much thicker, more continuous, and exposed at the surface (forming the gorge) starting immediately at the HUC boundary where it crosses the gorge below Otowi Bridge.

Extent of Cerro Grande Fire Impacts: Comments in the draft listing on page 78 for Guaje Canyon and page 166 for Pajarito Canyon indicate that selenium may be naturally elevated by the Cerro Grande fire. These two canyons are not unique – all of the Pajarito Plateau watersheds were impacted to some degree, some more severely than Guaje or Pajarito. The following table was compiled from the *Cerro Grande Fire Burned Area Emergency Rehabilitation Plan* (Interagency BAER Team, June 9, 2000) and shows the total area and the area severely burned in listed Pajarito Plateau watersheds:

Canyon	Total % Area Burned	% Area High Severity
Guaje (excluding Rendija)	44	14
Rendija	78	51
Los Alamos (excluding Pueblo)	26	12
Pueblo	31	22
Sandia	11	0
Mortandad	37	0
Pajarito	62	16
Water	52	11
Frijoles	10	1

This table shows that Guaje and Pajarito are not unique in the overall extent or severity of burning. Rendija, Los Alamos, Pueblo, and Water Canyons also had greater than 11% of the watershed area severely burned. Even the lower elevation watersheds of Sandia and Mortandad were significantly affected by the fire. Frijoles, as the farthest south of the watersheds, was the least affected because prevailing winds blew the fire north.

The Laboratory believes it is also likely that gross alpha is naturally occurring and may have been increased by the fire (Gallaher et. al., 2004). Gross alpha levels are similar in Guaje Canyon to the Canyons now or formerly within the Laboratory.

REPNSE: The comment regarding selenium and the Cerro Grande fire was added to all of the above assessment units that are listed for selenium.

Segment-Specific Comments

Guaje Canyon: Guaje is a major tributary to Los Alamos Canyon that was listed as impaired for gross alpha and selenium in 2002. However, the Laboratory questions some of the impairment sources on page 78 of listing. We are unaware of any permitted (or unpermitted) industrial/commercial storm water discharges in watershed (exclusive of Rendija Canyon). There is, in fact, remarkably little development throughout the watershed. There are no known past Laboratory testing activities except for drinking water utilities. There is one known potentially contaminated site – an electrical transformer associated with old drinking water wells and an associated unpaved road. A small pumice mine is located north of the Rendija confluence on top of the mesa. Some post-development erosion and sedimentation could be associated with the well sites, the unpaved road, recreational use, and the pumice mine. Because of the low level of disturbance, Guaje has been used as a background site for evaluation of Laboratory impacts. Any potential impairment should be listed as the result of natural sources and watershed runoff following forest fire.

REPNSE: SWQB removed industrial/commercial storm water discharges and added Inappropriate Waste Disposal and Surface Mining in response to your above comments.

Some relevant data are shown below:

Flow (from annual water reports): 32 days 2001 (partial year of record), 12 days 2002, 13 days 2003, 12 consecutive days of flow in 2001 (Flow data derived from Shaull et al. 1996a, 1996b, 1998, 1999, 2000, 2001, 2002, 2003, 2004)

Data (pp 62-63 ROD):

gross alpha 2001:	481, 194, 464, 441
selenium 2000, 2001:	8.8, 17.3, 34.5, 17.6
gross alpha 2002, 2003:	693, 2183, 1135, 1851, 2959
selenium 2002, 2003:	10.0, 8.12, 10.1, 9.06

It is notable that the gross alpha and selenium values for this undisturbed watershed are some of the highest found anywhere on the Pajarito Plateau. Gross alpha and selenium water quality data from 2001 and 2002 were compared between background locations (Guaje and upstream) and Laboratory influenced sites and found to be no different (Gallaher et al., 2004). The first graph below shows that gross alpha is related to suspended solids indicating the gross alpha is associated with particulate matter and not dissolved in the water. Notably, the gross alpha values

in this analysis includes the AEA special nuclear materials that must be subtracted from gross alpha values for use in the 303(d) list. The report concluded that Laboratory contributions of gross alpha (including AEA special nuclear materials) are too small to be detectable compared to the high background.

RESPONSE: As stated in the ROD for all gross alpha listings on the Pajarito Plateau all data used in the assessments were calculated as uranium-corrected gross alpha minus plutonium and americium.

The second graph shows that selenium is more closely related to iron although a weaker relationship to total suspended solids was present (not shown). This suggests that the environmental chemistry of selenium and gross alpha is more complex than a simple association with particulate matter. Comparison of data before and after the Cerro Grande Fire suggests that both gross alpha and selenium were increased by the fire. However, the two parameters are declining at different rates after the fire which is also indicative of different factors influencing their environmental chemistry.

The observed levels of gross alpha are far higher than the 15 pCi/L livestock watering standard. Although, a complete analysis of the data could not be completed during the 30-day comment period, it is possible that adjusted gross alpha would be found to exceed the criterion using the Laboratory's proposed protocol described above. It is notable that such high levels of gross alpha are found in the watershed with no impact from Laboratory operations.

However, the major shortcoming of the data used to support the listing decision is that it is all from storm flows, which is problematic for the reasons discussed above. No data are available to characterize the chronic exposure that occurred during the 12 consecutive days of flow recorded during 2002, or to characterize the more extensive intermittent flows known to occur at higher elevations, so the available data do not meet the SWQB's own stated goal to "better characterize the waterbody throughout most of the hydrograph."

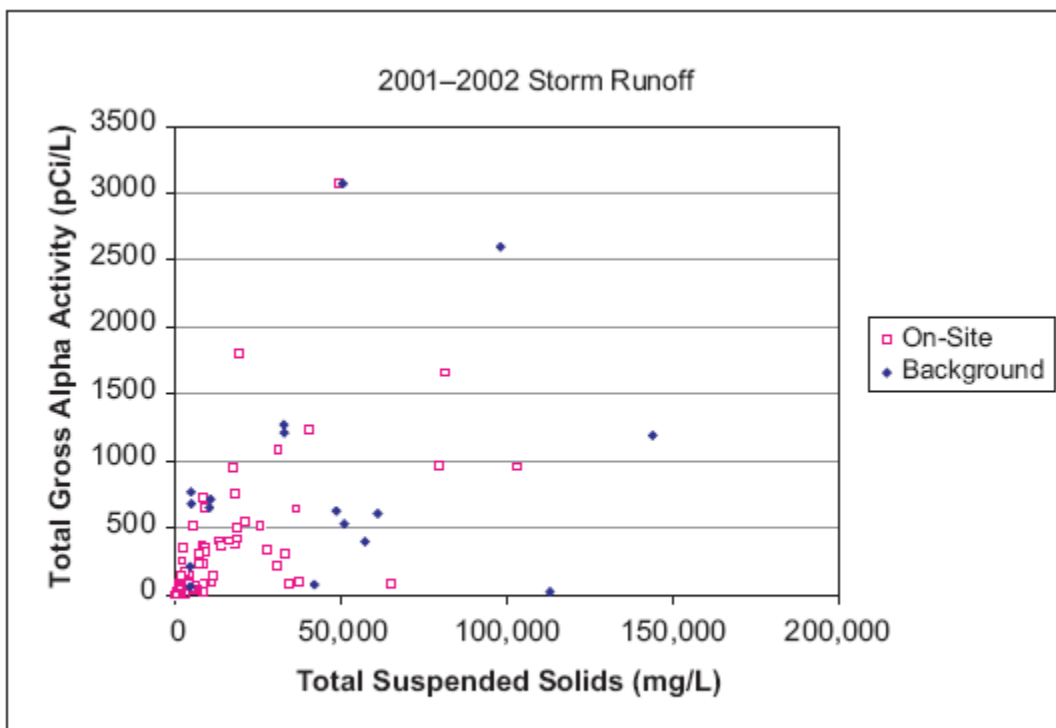


Figure 6-23. Comparison of gross alpha (alpha) activities in storm runoff at sites located upstream or north of (background) and near or downstream from (on-site) Laboratory operations.
(from Gallaher et al. 2004)

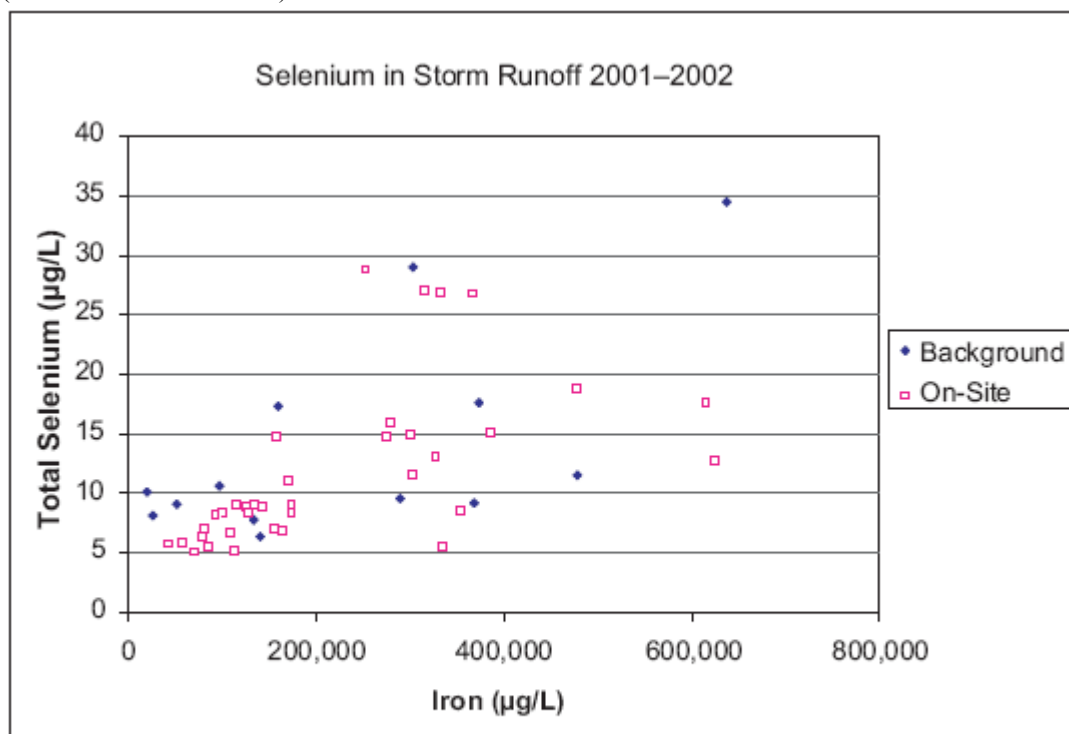


Figure 6-24. Comparison of selenium concentrations in storm runoff at sites located upstream or north of (background) and near or downstream from (on-site) Laboratory operations.
(from Gallaher et al. 2004)

RESPONSE: *There are currently (2004) no USEPA assessment or listing methodologies that provide guidance specifically on the incorporation of stormwater data. Even so, there is no specific language in NMAC 20.6.4 excluding the application of water quality standards to stormwater. Also, states are required to assemble and evaluate all existing and readily available water quality-related data and information. Therefore, there is no justifiable reason to exclude stormwater data from consideration during the New Mexico listing process. The majority of states surveyed by LANL to develop “LANL Enclosure 1” in Enclosure 3 stated that they were currently not using stormwater data as a sole basis of listing because either 1) stormwater data was not available, or 2) they were uncertain how to incorporate stormwater data into assessment procedures. States are requesting that USEPA develop clear guidance on how to incorporate stormwater data into assessments and the subsequent TMDL process.*

SWQB acknowledges that additional assessment methodologies specific to incorporation of stormwater data may be needed to verify existing and proposed listing based solely on stormwater data before scheduling subsequent TMDL development. Presumably with the cooperation of LANL, SWQB is planning to gather data on the intermittent and perennial portions of the listed waters during the scheduled 2005 survey year. For these reasons, SWQB has changed the categorization of all listings based solely on stormwater data from Category 5A to Category 5C and has added the following Assessment Unit Comment:

“...This listing is based on stormwater data only. Additional data and assessment methodologies specific to incorporation of stormwater data may be needed to verify the listing before scheduling subsequent TMDL development. There are currently (2004) no USEPA assessment or listing methodologies for incorporation of stormwater data.”

Los Alamos Canyon: Los Alamos was listed for gross alpha and selenium in 2002. There appear to be a number of misprints or inconsistencies in the listing on page 83, which indicates that Los Alamos Canyon is fully supporting livestock watering and wildlife habitat. As a result, all information on schedule, impairments and comments are missing. Additionally, the description of Los Alamos Canyon should be “San Ildefonso bnd to Los Alamos Reservoir.”

Flow: The flow in Los Alamos Canyon is intermittent below LA reservoir (Flow data derived from Shaull et al. 1996a, 1996b, 1998, 1999, 2000, 2001, 2002, 2003, 2004)

Data used to support listing (pp 64-65 ROD):

gross alpha 2000, 2001:	749, 678, 198, 344, 34.7, 591, 247, 121, 544, 102
selenium 2000, 2001:	7.54, 8.41, 8.81, 18.8, 9.04, 8.33, 22.7, 9.3, 12

RESPONSE: *SWQB concurs. The 2002 listings for gross alpha and selenium were inadvertently removed from the assessment database which we use to generate the list, presumably a result of the semi-automated port from ADB v.1 to ADB v.2. They were added back to the list, as were the associated Probable Sources. The name was changed to “....Los Alamos Rsvr).*

Los Alamos Canyon often flows for several months or longer. However, all of the reported data are storm water data that do not characterize the chronic exposures.

RESPONSE: *There are currently (2004) no USEPA assessment or listing methodologies that provide guidance specifically on the incorporation of stormwater data. Even so, there is no specific language in NMAC 20.6.4 excluding the application of water quality standards to*

stormwater. Also, states are required to assemble and evaluate all existing and readily available water quality-related data and information. Therefore, there is no justifiable reason to exclude stormwater data from consideration during the New Mexico listing process. The majority of states surveyed by LANL to develop “LANL Enclosure 1” in Enclosure 3 stated that they were currently not using stormwater data as a sole basis of listing because either 1) stormwater data was not available, or 2) they were uncertain how to incorporate stormwater data into assessment procedures. States are requesting that USEPA develop clear guidance on how to incorporate stormwater data into assessments and the subsequent TMDL process.

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Los Alamos Reservoir: Marginal coldwater fishery is listed as an existing use, which appears to conflict with both the SWQB and the Laboratory’s triennial review proposal. This fishery is a stocked and not a naturally occurring fishery. No impairment sources (p 84 of listing) are listed; for consistency with 2002, the document should list “runoff following forest fire.”

***RESPONSE:** The existing use was changed to Coldwater Fishery. The Causes and Sources were inadvertently removed from the assessment database, presumably a result of the semi-automated port from ADB v.1 to ADB v.2. They were added back.*

Pueblo Canyon: Pueblo is a tributary of Los Alamos Canyon and was listed for gross alpha and selenium in 2002. Mercury is newly proposed for listing in 2004.

Flow: Nearly perennial below the Los Alamos County wastewater treatment plant (Flow data derived from Shaull et al. 1996a, 1996b, 1998, 1999, 2000, 2001, 2002, 2003, 2004); There are no flow records above the plant, but the stream is probably typically ephemeral above the plant

Data used to support listing (pp 67-68 ROD):

gross alpha 2001:	1197, 78, 867, 1569
selenium 2000, 2001:	26.8, 15.1, 13.1
mercury 2002:	2.70 (average), 1.70, 6.3, 1.30, 1.3
selenium 2002, 2003:	8.2, 30, 25 (average), 9.54
gross alpha 2002, 2003:	36.9-2910 (10 samples), 399, 39.7, 145, 336, 35

The holding time was exceeded for most if not all of the mercury samples. These data should not be used to list a stream if they do not meet QA/QC requirements. All reported data is from

storm water flows, despite the fact that a near perennial effluent-created flow exists below the Los Alamos County wastewater treatment plant.

***RESPONSE:** Three of the values used to make the mercury determination exceeded the holding time by 33 to 41 days. SWQB acknowledged the holding time exceedences in the ROD and contends that USEPA's position is that qualified data may be used to make listing decisions (see the below statement from the draft ROD regarding the holding time violations):*

*"...NOTES: * = Holding time was exceeded for these measurements. According to the Assessment Protocol (section 2.1.1), "...results from samples that are flagged by the laboratory as "exceeded holding time" will be considered estimates and will be used during the assessment process unless the result is deemed "rejected" based on professional judgment ... From USEPA's perspective, the time and expense associated with the sample collection and processing is forfeited when data exceeding the holding time is rejected even though the analytical results may in fact be accurate and usable (USEPA 2002e)."*

There are currently (2004) no USEPA assessment or listing methodologies that provide guidance specifically on the incorporation of stormwater data. Even so, there is no specific language in NMAC 20.6.4 excluding the application of water quality standards to stormwater. Also, states are required to assemble and evaluate all existing and readily available water quality-related data and information. Therefore, there is no justifiable reason to exclude stormwater data from consideration during the New Mexico listing process. The majority of states surveyed by LANL to develop "LANL Enclosure 1" in Enclosure 3 stated that they were currently not using stormwater data as a sole basis of listing because either 1) stormwater data was not available, or 2) they were uncertain how to incorporate stormwater data into assessment procedures. States are requesting that USEPA develop clear guidance on how to incorporate stormwater data into assessments and the subsequent TMDL process.

SWQB acknowledges that additional assessment methodologies specific to incorporation of stormwater data may be needed to verify existing and proposed listing based solely on stormwater data before scheduling subsequent TMDL development. Presumably with the cooperation of LANL, SWQB is planning to gather data on the intermittent and perennial portions of the listed waters during the scheduled 2005 survey year. For these reasons, SWQB has changed the categorization of all listings based solely on stormwater data from Category 5A to Category 5C and has added the following Assessment Unit Comment:

"...This listing is based on stormwater data only. Additional data and assessment methodologies specific to incorporation of stormwater data may be needed to verify the listing before scheduling subsequent TMDL development. There are currently (2004) no USEPA assessment or listing methodologies for incorporation of stormwater data."

Rendija Canyon: Rendija Canyon is tributary to Guaje Canyon (which, in turn, is a tributary to Los Alamos Canyon) and was listed for selenium in 2002. Impairment sources on p 93 of listing includes permitted industrial/commercial storm water sources. The Laboratory is unaware of any such sources unless this is a reference to several potential release sites, mainly mortar impact areas of very limited and short term use (compared to typical Department of Defense artillery impact areas). Small commercial or municipal sources not requiring a permit may be present and

there is very limited impervious surface or parking lots with some low density residential development. Interestingly, gross alpha values are lower than Guaje Canyon, even though Rendija Canyon is more developed.

Flow: 7 days 2001 (partial year of record), 5 days 2002, 15 days 2003, 5 consecutive flow days (Flow data derived from Shaull et al. 1996a, 1996b, 1998, 1999, 2000, 2001, 2002, 2003, 2004)

Data used to support listing (p 72, ROD):

selenium 2000, 2001: 10.0, 28.3

The listing of Rendija Canyon appears to be based on a total of two storm water samples obtained 3-4 years ago. Aside from the inappropriate use of storm water samples, this does not appear to be sufficient data to list this canyon individually, especially considering it is a tributary to a tributary (Guaje) to a tributary (Los Alamos) of the Rio Grande.

***RESPONSE:** SWQB corrected the Probable Sources with the information presented above. SWQB contends that Rendija Canyon should be segmented separately in accordance to Section I of USEPA's Guidance for 2004 Assessment, Listing and Reporting Requirements Pursuant to Sections 303(d) and 305(b) of the Clean Water Act. According to the current Assessment Protocol, the two data points from 2000 and 2001 are sufficient to make the listing determination.*

There are currently (2004) no USEPA assessment or listing methodologies that provide guidance specifically on the incorporation of stormwater data. Even so, there is no specific language in NMAC 20.6.4 excluding the application of water quality standards to stormwater. Also, states are required to assemble and evaluate all existing and readily available water quality-related data and information. Therefore, there is no justifiable reason to exclude stormwater data from consideration during the New Mexico listing process. The majority of states surveyed by LANL to develop "LANL Enclosure 1" in Enclosure 3 stated that they were currently not using stormwater data as a sole basis of listing because either 1) stormwater data was not available, or 2) they were uncertain how to incorporate stormwater data into assessment procedures. States are requesting that USEPA develop clear guidance on how to incorporate stormwater data into assessments and the subsequent TMDL process.

SWQB acknowledges that additional assessment methodologies specific to incorporation of stormwater data may be needed to verify existing and proposed listing based solely on stormwater data before scheduling subsequent TMDL development. Presumably with the cooperation of LANL, SWQB is planning to gather data on the intermittent and perennial portions of the listed waters during the scheduled 2005 survey year. For these reasons, SWQB has changed the categorization of all listings based solely on stormwater data from Category 5A to Category 5C and has added the following Assessment Unit Comment:

"...This listing is based on stormwater data only. Additional data and assessment methodologies specific to incorporation of stormwater data may be needed to verify the listing before scheduling subsequent TMDL development. There are currently (2004) no USEPA assessment or listing methodologies for incorporation of stormwater data."

Mortandad Canyon: Mortandad is a relatively small watershed that originates near the main Laboratory Technical Area. Nevertheless, much of the watershed is relatively undisturbed native vegetation, at least compared to the heavy disturbance in parts of Sandia Canyon. It was listed in 2002 for gross alpha and is proposed for listing for selenium in 2004 based on a total of two samples out of a large number analyzed. No information is provided on the total number of samples, but they are fairly numerous. As noted above, where appropriate, sample values should be averaged; isolated values should not be selected for listing purposes while ignoring others.

RESPONSE: According to the current Assessment Protocol, the two data points from 2001 and 2003 are sufficient to make the listing determination. The current protocol does not use averages to determine attainment of wildlife habitat designated uses.

In ephemeral and intermittent streams, the calculations of means would require the inclusion of values of zero to account for no flow days. The values being averaged are concentrations, in mass per unit volume. In the absence of flow, there would be no mass and no volume. As a result, the calculation of concentration in the absence of flow would result in division by zero, which results in an undefined amount, not zero. It is not possible to average with undefined amounts, meaning that if one sample was undefined, no average concentration could be calculated and designated use attainment status could not be determined. SWQB's contention is that averaging concentration values of zero when no flow is present could result in substantial exceedences of criteria when water is present.

Impairment sources (p 166 of listing): Natural sources and forest fire runoff are not listed but are probably a major source, based on the analysis performed by Gallaher et al. (2004). Mortandad has been the site of past releases of gross alpha, yet these appear to be a relatively minor contribution to the total. We again note that Gallaher et al. included AEA special nuclear materials in their gross alpha analysis, so that data from this analysis must be adjusted for comparison with the criterion.

RESPONSE: The Probable Sources were changed based on the above comments. As stated in the ROD for all gross alpha listings on the Pajarito Plateau all data used in the assessments were calculated as uranium-corrected gross alpha minus plutonium and americium.

Flow: Naturally ephemeral (0 days of flow since 1995 at lab boundary), intermittent (274 days/year) near one of the Laboratory's permitted outfalls (Flow data derived from Shaull et al. 1996a, 1996b, 1998, 1999, 2000, 2001, 2002, 2003, 2004)

Data provided to support listing (p 131, ROD)

gross alpha 2001:	27.1, 30.9
selenium 2001:	7.76
gross alpha 2002, 2003:	647, 375 (MDA G-13 is a storm water permit station not located in a watercourse), 209 (located in Canada del Buey, not Mortandad), 210 (effluent canyon, but appears to be storm), 352 (effluent canyon, but appears to be storm)
selenium 2003:	7.88 (9/3/2003 was a storm event)

Data from a number of different locations appears to be lumped together, including one sample that is a storm water discharge from an industrial site not located in a watercourse (MDA G-13);

therefore this sample should be excluded. Another gross alpha sample was collected from Canada del Buey, which although technically a tributary of Mortandad, joins it only about 0.5 miles above the Rio Grande. Although chronic exposures exist near a permitted outfall (effluent canyon), all data appears to be from storm events and are not applicable to chronic conditions. The Laboratory suggests that the major impairment to wildlife and livestock watering is the almost complete lack of water, as indicated by 0 days of recorded flow since 1995 (Shaull et al. 1996a-2004). In the part of the canyon where effluent-created water is present intermittently over 200 days a year, no data representative of the associated chronic exposure conditions is presented. There is no basis for listing selenium, since only two storm event values are shown for a three year period. These values are not applicable to the chronic criterion and are below the acute aquatic life criterion.

***RESPONSE:** The gross alpha results for MDA G-13 and Canada del Buey were removed from the assessment. According to the current Assessment Protocol, the two selenium data points from 2001 and 2003 are sufficient to make the listing determination. The current protocol does not use averages to determine attainment of wildlife habitat designated use.*

There are currently (2004) no USEPA assessment or listing methodologies that provide guidance specifically on the incorporation of stormwater data. Even so, there is no specific language in NMAC 20.6.4 excluding the application of water quality standards to stormwater. Also, states are required to assemble and evaluate all existing and readily available water quality-related data and information. Therefore, there is no justifiable reason to exclude stormwater data from consideration during the New Mexico listing process. The majority of states surveyed by LANL to develop "LANL Enclosure 1" in Enclosure 3 stated that they were currently not using stormwater data as a sole basis of listing because either 1) stormwater data was not available, or 2) they were uncertain how to incorporate stormwater data into assessment procedures. States are requesting that USEPA develop clear guidance on how to incorporate stormwater data into assessments and the subsequent TMDL process.

SWQB acknowledges that additional assessment methodologies specific to incorporation of stormwater data may be needed to verify existing and proposed listing based solely on stormwater data before scheduling subsequent TMDL development. Presumably with the cooperation of LANL, SWQB is planning to gather data on the intermittent and perennial portions of the listed waters during the scheduled 2005 survey year. For these reasons, SWQB has changed the categorization of all listings based solely on stormwater data from Category 5A to Category 5C and has added the following Assessment Unit Comment:

"...This listing is based on stormwater data only. Additional data and assessment methodologies specific to incorporation of stormwater data may be needed to verify the listing before scheduling subsequent TMDL development. There are currently (2004) no USEPA assessment or listing methodologies for incorporation of stormwater data."

Pajarito Canyon: Pajarito was listed for gross alpha and selenium in 2002. With respect to impairment sources (p 166 of listing), there are no active industrial point source discharges in Pajarito Canyon but there are permitted industrial/commercial storm water sources. Parking lot and paved area in Pajarito watershed is small, mostly located in the Two-Mile tributary near the main Laboratory Technical Area.

RESPONSE: The Probable Sources were changed based on the above comments.

Flow: Generally intermittent except near Starmers Gulch, which is perennial (Flow data derived from Shaull et al. 1996a, 1996b, 1998, 1999, 2000, 2001, 2002, 2003, 2004)

Data to support listing (pp 131-132, ROD)

gross alpha 2001:	124, 137, 134, 23.8, 56.9, 313
selenium 2000, 2001:	29.0, 8.98, 8.89, 11.1, 16.9
gross alpha 2002:	370, 103, 258, 911, 444 (MDA G-2 is MSGP, not a watercourse, 687 (MDA G-2), 1478
selenium 2003:	7.91

The MDA G-2 samples are storm water runoff samples from an industrial site not located in a watercourse and therefore should be excluded. Of course, the remaining data is storm water data, despite the existence of a perennial segment and the fact that much of the canyon is intermittent, flowing for as much as a month or more at a time. Selenium appears to be declining.

RESPONSE: The gross alpha results for MDA G-2 were removed from the assessment.

There are currently (2004) no USEPA assessment or listing methodologies that provide guidance specifically on the incorporation of stormwater data. Even so, there is no specific language in NMAC 20.6.4 excluding the application of water quality standards to stormwater. Also, states are required to assemble and evaluate all existing and readily available water quality-related data and information. Therefore, there is no justifiable reason to exclude stormwater data from consideration during the New Mexico listing process. The majority of states surveyed by LANL to develop "LANL Enclosure 1" in Enclosure 3 stated that they were currently not using stormwater data as a sole basis of listing because either 1) stormwater data was not available, or 2) they were uncertain how to incorporate stormwater data into assessment procedures. States are requesting that USEPA develop clear guidance on how to incorporate stormwater data into assessments and the subsequent TMDL process.

SWQB acknowledges that additional assessment methodologies specific to incorporation of stormwater data may be needed to verify existing and proposed listing based solely on stormwater data before scheduling subsequent TMDL development. Presumably with the cooperation of LANL, SWQB is planning to gather data on the intermittent and perennial portions of the listed waters during the scheduled 2005 survey year. For these reasons, SWQB has changed the categorization of all listings based solely on stormwater data from Category 5A to Category 5C and has added the following Assessment Unit Comment:

"...This listing is based on stormwater data only. Additional data and assessment methodologies specific to incorporation of stormwater data may be needed to verify the listing before scheduling subsequent TMDL development. There are currently (2004) no USEPA assessment or listing methodologies for incorporation of stormwater data."

Sandia Canyon: Sandia Canyon is the most heavily urbanized watershed within the current Laboratory boundary, heading up in the main technical area of the Lab, with the north bank consisting of the side slope of the Los Alamos County municipal solid waste landfill. It has not been proposed for listing for selenium and gross alpha. The relative absence of these

constituents in this urbanized watershed suggests that their origin is from natural sources and forest fire runoff. The watershed is proposed for listing for PCBs in 2004 based upon storm water samples tested using the 40 CFR 136 Aroclor method. Some of the data are flagged and should not be used for listing. A number of non-detects were ignored.

RESPONSE: According to the current Assessment Protocol, sufficient data are available to make the listing determination. Two of the values used to make the PCB determination were J-flagged. SWQB acknowledged the flags in the ROD and contends that USEPA's position is that qualified data may be used to make listing decisions (see the below statement from the draft ROD regarding J flagged data):

*“...NOTES: * = These data were J-flagged. According to the Assessment Protocol (section 2.1.1), “...Concentrations detected below minimum quantification limit (ML) but above the method detection limit (MDL) are typically flagged with a “J” qualifier that indicates the reported concentration is estimated. The concentration is reported as estimated because the concentration being detected is below the lowest concentration on the calibration curve. There is certainty as to the identification of the chemical but uncertainty as to the reported concentration. These values may be used in an assessment.”*

An impairment source on p 170 of the proposed listing appears to be in error: Atmospheric deposition – acidity. This sounds like acid rain. Certainly one source would be atmospheric deposition, but not acid rain.

RESPONSE: This should have been Atmospheric Deposition – Toxics. The Probable Sources were corrected based on the above comments.

The ongoing PCB Cooperative Study involving the NMED DOE Oversight Bureau and the Laboratory has used the more sensitive but unapproved congener method to identify PCBs in numerous areas including base flow of Sandia Canyon, the Santa Fe River, Albuquerque storm drainage channels, and the Rio Grande. The Laboratory believes that the data here, which are based on storm water flows, do not justify a listing at this time.

Flow: Naturally ephemeral (average of one day flow per year at Laboratory east boundary since 1995), perennial near permitted outfall (Flow data derived from Shaull et al. 1996a, 1996b, 1998, 1999, 2000, 2001, 2002, 2003, 2004)

Data proposed to support listing(p 133, ROD)

PCBs 2002, 2003: 0.11, 0.078, 0.11, 0.23, all storm water, several flagged

REPPONSE: SWQB contends that these data based on the 40 CFR 136 Aroclor method do warrant the proposed listing based on the current Assessment Protocol.

There are currently (2004) no USEPA assessment or listing methodologies that provide guidance specifically on the incorporation of stormwater data. Even so, there is no specific language in NMAC 20.6.4 excluding the application of water quality standards to stormwater. Also, states are required to assemble and evaluate all existing and readily available water quality-related data and information. Therefore, there is no justifiable reason to exclude stormwater data from consideration during the New Mexico listing process. The majority of states surveyed by LANL

to develop “LANL Enclosure 1” in Enclosure 3 stated that they were currently not using stormwater data as a sole basis of listing because either 1) stormwater data was not available, or 2) they were uncertain how to incorporate stormwater data into assessment procedures. States are requesting that USEPA develop clear guidance on how to incorporate stormwater data into assessments and the subsequent TMDL process.

SWQB acknowledges that additional assessment methodologies specific to incorporation of stormwater data may be needed to verify existing and proposed listing based solely on stormwater data before scheduling subsequent TMDL development. Presumably with the cooperation of LANL, SWQB is planning to gather data on the intermittent and perennial portions of the listed waters during the scheduled 2005 survey year. For these reasons, SWQB has changed the categorization of all listings based solely on stormwater data from Category 5A to Category 5C and has added the following Assessment Unit Comment:

“...This listing is based on stormwater data only. Additional data and assessment methodologies specific to incorporation of stormwater data may be needed to verify the listing before scheduling subsequent TMDL development. There are currently (2004) no USEPA assessment or listing methodologies for incorporation of stormwater data.”

Water Canyon: Water Canyon is the southernmost major watercourse that crosses the Laboratory. It was listed for gross alpha and selenium in 2002.

Flow: generally intermittent with expanding perennial stretch from SR-501 east. Perennial in a short stretch below Burning Ground Spring in Canon de Valle tributary. Unnamed Canon de Valle tributary is intermittent from a permitted outfall. (Flow data derived from Shaull et al. 1996a, 1996b, 1998, 1999, 2000, 2001, 2002, 2003, 2004)

Data used to support listing (p 136, ROD)

gross alpha 2001: 465, 365, 475, 95, 50, 1587, 210, 847, 21, 418, 224, 442

selenium 2000, 2001: 17.3, 23.3, 7.77, 11.1, 17.6, 9.55, 8.52, 8.43, 27.1, 11.5, 14.7, 9.1, 16, 28.8, 10.6, 14.9, 24.4

gross alpha 2003: 370, 103, 26, 69, 311, 254, 365, 612, 204

Despite the presence of several perennial and intermittent reaches, it appears that all data is based on storm water samples as far as we know. Note that no new selenium “exceedances” were reported during 2003.

RESPONSE: *There are currently (2004) no USEPA assessment or listing methodologies that provide guidance specifically on the incorporation of stormwater data. Even so, there is no specific language in NMAC 20.6.4 excluding the application of water quality standards to stormwater. Also, states are required to assemble and evaluate all existing and readily available water quality-related data and information. Therefore, there is no justifiable reason to exclude stormwater data from consideration during the New Mexico listing process. The majority of states surveyed by LANL to develop “LANL Enclosure 1” in Enclosure 3 stated that they were currently not using stormwater data as a sole basis of listing because either 1) stormwater data was not available, or 2) they were uncertain how to incorporate stormwater data into assessment procedures. States are requesting that USEPA develop clear guidance on how to incorporate stormwater data into assessments and the subsequent TMDL process.*

SWQB acknowledges that additional assessment methodologies specific to incorporation of stormwater data may be needed to verify existing and proposed listing based solely on stormwater data before scheduling subsequent TMDL development. Presumably with the cooperation of LANL, SWQB is planning to gather data on the intermittent and perennial portions of the listed waters during the scheduled 2005 survey year. For these reasons, SWQB has changed the categorization of all listings based solely on stormwater data from Category 5A to Category 5C and has added the following Assessment Unit Comment:

“...This listing is based on stormwater data only. Additional data and assessment methodologies specific to incorporation of stormwater data may be needed to verify the listing before scheduling subsequent TMDL development. There are currently (2004) no USEPA assessment or listing methodologies for incorporation of stormwater data.”

References

- Gallaher, B.M., D.B. Rogers, K.I. Mullen, and R.J. Koch. 2004. Watershed Monitoring. Chapter 6, pp 145-189, In *Environmental Surveillance at Los Alamos during 2002*. Los Alamos National Laboratory, LA-14085-ENV. January, 2004.
- Interagency BAER Team. 2000. Cerro Grande Fire Burned Area Emergency Rehabilitation Plan. US Forest Service, Santa Clara Pueblo, San Ildefonso Pueblo, US Bureau of Indian Affairs, National Park Service, Los Alamos County, Los Alamos National Laboratory, US Department of Energy. 6/9/2000.
- Shaull D.A., M.R. Alexander, R.P. Reynolds. 1996a. Surface Water Data at Los Alamos National Laboratory: 1995 Water Year. LA-13177-PR, August 1996.
- Shaull D.A., M.R. Alexander, R.P. Reynolds, C.T. McLean. 1996b. Surface Water Data at Los Alamos National Laboratory: 1996 Water Year. LA-13234-PR, November 1996.
- Shaull D.A., M.R. Alexander, R.P. Reynolds, C.T. McLean. 1998. Surface Water Data at Los Alamos National Laboratory: 1997 Water Year. LA-13403-PR, January 1998.
- Shaull D.A., M.R. Alexander, R.P. Reynolds, C.T. McLean, R.P. Romero. 1999. Surface Water Data at Los Alamos National Laboratory: 1998 Water Year. LA-13551-PR, February 1999.
- Shaull D.A., M.R. Alexander, R.P. Reynolds, C.T. McLean, R.P. Romero. 2000. Surface Water Data at Los Alamos National Laboratory: 1999 Water Year. LA-13706-PR, April 2000.
- Shaull D.A., M.R. Alexander, R.P. Reynolds, R.P. Romero, E. T. Riebsomer, C.T. McLean. 2001. Surface Water Data at Los Alamos National Laboratory: 2000 Water Year. LA-13814-PR, June 2001.
- Shaull D.A., D. Ortiz, M.R. Alexander, R.P. Romero, E. T. Riebsomer. 2002. Surface Water Data at Los Alamos National Laboratory: 2001 Water Year. LA-13905-PR, April 2002.

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Shaull D.A., D. Ortiz, M.R. Alexander, R.P. Romero. 2003. Surface Water Data at Los Alamos National Laboratory: 2002 Water Year. LA-14019-PR, March 2003.

Shaull D.A., D. Ortiz, M.R. Alexander, R.P. Romero. 2004. Surface Water Data at Los Alamos National Laboratory: 2003 Water Year. LA-14131-PR, March 2004.

US EPA. 1991. Technical support document for water quality-based toxics control. EPA/505/2-90-001.

US EPA. 1994. Water Quality Standards Handbook: Second Edition. EPA 823-B-94-005a, August 1994.

US EPA. 1997. Guidelines for preparation of the comprehensive state water quality assessments (305(b) reports) and electronic updates: supplement. EPA-841-B-97-002B.

US EPA. 2000. Final Reissuance of National Pollutant Discharge Elimination System (NPDES) Storm Water Multi-Sector General Permit (MSGP) for Industrial Activities. 65 Federal Register 64745-64880, October 30, 2000.

US EPA. 2002. Consolidated Assessment and Listing Methodology (CALM). Toward a Compendium of Best Practices. First Edition. July 2002.